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Journal or Magazine = **JNL** Conference = **CNF** Standard = **STD****1 Performance of backup source routing in mobile ad hoc networks***Song Guo; Yang, O.W.;*

Wireless Communications and Networking Conference, 2002. WCNC2002. 2002:

Volume: 1 , 17-21 March 2002

Page(s): 440 -444 vol.1

[\[Abstract\]](#) [\[PDF Full-Text \(387 KB\)\]](#) **IEEE CNF****2 A novel all-optical self-routed wavelength-addressable network (SWAN)***Buckman, L.A.; Wu, M.S.; Giaretta, G.; Li, G.S.; Pepeljugoski, P.K.; Goodman, Varma, A.; Lau, K.Y.; Chang-Hasnain, C.J.;*

Photonics Technology Letters, IEEE , Volume: 7 Issue: 9 , Sept. 1995

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[\[Abstract\]](#) [\[PDF Full-Text \(288 KB\)\]](#) **IEEE JNL****3 A complete set of VLSI circuits for ATM switching***Collivignarelli, M.; Daniele, A.; De Nicola, P.; Licciardi, L.; Turolla, M.; Zappalà, G.; Giaretta, G.; Pepeljugoski, P.K.; Goodman, Varma, A.; Lau, K.Y.; Chang-Hasnain, C.J.;*  
 Global Telecommunications Conference, 1994. GLOBECOM '94. 'Communication Global Bridge'., IEEE , 28 Nov.-2 Dec. 1994

Page(s): 134 -138 vol.1

[\[Abstract\]](#) [\[PDF Full-Text \(816 KB\)\]](#) **IEEE CNF****4 Simultaneous all-optical packet manipulation and wavelength shifting in reconfigurable WDM network***Willner, A.E.; Norte, D.; Park, E.;*

Lasers and Electro-Optics Society Annual Meeting, 1995. 8th Annual Meeting

Conference Proceedings, Volume 1., IEEE , Volume: 1 , 30-31 Oct. 1995  
Page(s): 214 -215 vol.1

[\[Abstract\]](#) [\[PDF Full-Text \(192 KB\)\]](#) **IEEE CNF**

---

**5 "Dead reckoning"-a primitive and efficient self-routing protocol for ultrafast mesh networks**

Cotter, D.; Tatham, M.C.;  
Communications, IEE Proceedings- , Volume: 144 Issue: 3 , June 1997  
Page(s): 135 -142

[\[Abstract\]](#) [\[PDF Full-Text \(832 KB\)\]](#) **IEE JNL**

---

**6 Packet reassembly during cell loss**

Armitage, G.J.; Adams, K.M.;  
Network, IEEE , Volume: 7 Issue: 5 , Sept. 1993  
Page(s): 26 -34

[\[Abstract\]](#) [\[PDF Full-Text \(1444 KB\)\]](#) **IEEE JNL**

---

**7 Design and implementation of ultra-low latency optical label switchin packet-switched WDM networks**

Meagher, B.; Chang, G.K.; Ellinas, G.; Lin, Y.M.; Xin, W.; Chen, T.F.; Yang, X.; Chowdhury, A.; Young, J.; Yoo, S.J.; Lee, C.; Iqbal, M.Z.; Robe, T.; Dai, H.; Ci Y.J.; Way, W.I.;  
Lightwave Technology, Journal of , Volume: 18 Issue: 12 , Dec 2000  
Page(s): 1978 -1987

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## A complete set of VLSI circuits for ATM switching

Collivignarelli, M. Daniele, A. De Nicola, P. Licciardi, L. Turolla, M. Zappalorto, A.  
Italtel-Settimo Milanese;

*This paper appears in: Global Telecommunications Conference, 1994. GLOBECOM '94. 'Communications: The Global Bridge', IEEE*

Meeting Date: 11/28/1994 -12/02/1994

Publication Date: 28 Nov- 2 Dec 1994

Location: San Francisco, CA , USA

On page(s): 134-138 vol.1

References Cited: 7

INSPEC Accession Number: 5079720

#### Abstract:

The broadband services offered via the ATM-based B-ISDN range from high-speed data services to imaging services. A complete chip set for ATM switching system is presented. The VLSI components allow one to implement the most significant functions in an ATM node. Three chips are located in the exchange termination: the cell header processor that processes the ATM cells for label conversion, external to internal format translation and cell extraction and insertion, the policing unit that implements both the usage and the network parameter control functions, and the duplicated path recombining controller that duplicates and recombines respectively the input and output cell flow. The fourth component is the core of the ATM switching fabric: the broadband ATM switching element that switches the ATM cells according to the routing information written in the cell internal header, this component is presented in two different realisations (a low power  $8 \times 8$ , a BiCMOS  $16 \times 16$ ). All the circuits are designed for an industrial environment and are inserted in the Italtel UTXC cross connect. System debugability and controllability inspired the whole chip set design. Flexibility of specifications allows one to fit other applications and future development. High performance in term of speed, low power dissipation, high integration density really stressed the technology of VLSI circuits

#### Index Terms:

ATM cells ATM node ATM switching fabric ATM switching systems B-ISDN BiCMOS chip BiCMOS digital integrated circuits CMOS digital integrated circuits CMOS low power chip Italtel UTXC cross connect VLSI VLSI circuits asynchronous transfer mode broadband ATM switching element cell extraction cell flow cell header processor cell insertion duplicated path recombining controller electronic switching systems exchange termination format translation network parameter control policing unit routing information system debugging usage parameter control ATM cells ATM node ATM switching fabric ATM switching systems B-ISDN BiCMOS chip BiCMOS digital integrated circuits CMOS digital integrated circuits CMOS low power chip Italtel UTXC cross connect VLSI VLSI circuits asynchronous transfer mode broadband ATM switching element cell extraction cell flow cell header processor cell insertion duplicated path recombining controller elec

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## Design and implementation of ultra-low latency optical label switching for packet-switched WDM networks

Meagher, B. [Chang, G.K.](#) [Ellinas, G.](#) [Lin, Y.M.](#) [Xin, W.](#) [Chen, T.F.](#) [Yang, X.](#) [Chowdhury, A.](#) [Young, J.](#) [Yoo, S.J.](#) [Lee, C.](#) [Iqbal, M.Z.](#) [Robe, T.](#) [Dai, H.](#) [Chen, W.I.](#)

Telcordia Technol., Red Bank, NJ;

*This paper appears in: Lightwave Technology, Journal of*

Publication Date: Dec 2000

On page(s): 1978-1987

Volume: 18, Issue: 12

ISSN: 0733-8724

References Cited: 10

CODEN: JLTEDG

INSPEC Accession Number: 6888891

#### Abstract:

An ultra-low latency, high throughput Internet protocol (IP) over wavelength division multiplexing (WDM) packet switching technology for next-generation Internet (NGI) applications has been designed and demonstrated. This method overcomes limitations of conventional optical packet switching, which require buffering of packets and synchronization of bits, and optical burst switching methods that require estimation of delays at each node and for each path. An optical label switching technique was developed to realize flexible bandwidth-on-demand packet transport on a reconfigurable WDM network. The aim was to design a network with simplified protocol stacks, scalability, and transparency. This network will enable the NGI users to send their data applications at gigabit/second access speed with low and predictable latency ( $\mu$ sec per switch node), with a system capacity of beyond multi-Tb/s. Packet forwarding utilizes WDM optical headers that are carried in-band on the same wavelength and modulated out-of-band in the frequency domain

#### Index Terms:

Internet optical fibre subscriber loops packet switching protocols synchronisation telecommunication switching wavelength division multiplexing NGI users WDM optical headers WDM packet switching and width-on-demand packet transport data transparency frequency domain gigabit/second access speed high throughput Internet protocol modulated out-of-band next-generation Internet applications optical burst switching optical packet switching packet-switched WDM networks reconfigurable WDM network synchronization ultra-low latency optical label switching wavelength division multiplexing

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**Reference list:**

1. Viswanathan, Feldman, Wang, Callon, "Evolution of multiprotocol label switching", vol.36, no.5, pp.165-173, May 1998.  
[Abstract] [PDF Full-Text (1280KB)]
2. Blumenthal, Carena, Rau, Curri, Humphries, "WDM optical tag switching w  
packet-rate wavelength conversion and subcarrier multiplexed addressing", T  
San Diego, CA, pp.162- 164, Feb. 1999.  
[Abstract] [PDF Full-Text (240KB)]
3. Way, Lin, Chang, "A novel optical label swapping technique using erasable  
optical single-sideband subcarrier label", WD6, Baltimore, MD, pp.1-4, Mar. 2  
[Abstract] [PDF Full-Text (220KB)]
4. Wei, "The role of DCN in optical WDM networks", FI1, Baltimore, MD, vol.,  
pp.1- 3, Mar. 2000.  
[Abstract] [PDF Full-Text (196KB)]
5. Turner, "WDM burst switching for petabit data networks ", WD2, Baltimore,  
pp.1-4, Mar. 2000.  
[Abstract] [PDF Full-Text (220KB)]
6. "Internet Draft", Sept. 1981.
7. "Internet Draft", Sept. 1999.
8. Blumenthal, Carena, Rau, Curri, Humphries, "All-optical label swapping wi  
wavelength conversion for WDM-IP networks with subcarrier multiplexed  
addressing ", vol.11, pp.1497 -1499, Nov. 1999.  
[Abstract] [PDF Full-Text (288KB)]
9. Jiang, Chen, Willner, "All optical wavelength independent packet header  
replacement using a long CW region generated directly from the packet flag",  
vol.10, pp.1638 -1640, Nov. 1998.  
[Abstract] [PDF Full-Text (60KB)]
10. Smith, Novak, "Broad-band millimeter-wave (38 GHz) fiber-wireless  
transmission system using electrical and optical SSB modulation to overcome  
dispersion effects", vol.10, pp.141-143, Jan. 1998.  
[Abstract] [PDF Full-Text (76KB)]

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